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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/760,320

01/21/2004

Takao Isogai

084335-0181

7661

22428

7590

06/02/2006

FOLEY AND LARDNER LLP  
SUITE 500  
3000 K STREET NW  
WASHINGTON, DC 20007

EXAMINER

MARTINELL, JAMES

ART UNIT

PAPER NUMBER

1634

DATE MAILED: 06/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/760,320

**Applicant(s)**

ISOGAI ET AL.

**Examiner**

James Martinell

**Art Unit**

1634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 2-4 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 5-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/04 & 8/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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Claims 3-4 and 14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on March 28, 2006

Amended claim 4 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claim 4 is drawn to the same invention as claim 3 which was Grouped in Group III in the requirement for restriction mailed November 29, 2005.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 4 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

The disclosure is objected to because of the following informalities.

- (a) On page 1, line 13 "*arabidopsis*" should be changed to "*Arabidopsis*" because it is a genus name.
- (b) The numeral represented here by the question mark in "BRACE20353?1" on page 439, line 33 is illegible

Appropriate correction is required.

The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01. Embedded hyperlinks and/or other forms of browser-executable code appear in at least the following locations:

- (a) page 4, lines 18-20 and 24-27,
- (b) page 9, line 28,
- (c) page 86, line 7,
- (d) page 93, line 21,
- (e) page 96, line 16,
- (f) page 98, line 20,

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- (g) page 128, lines 12, 13, and 16,
- (h) page 145, line 23,
- (i) page 151, line 27,
- (j) page 217, lines 6 and 14,
- (k) page 270, line 23, ,
- (l) page 309, lines 15 and 17, and
- (m) page 519, one 27.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 5-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are vague, indefinite, inaccurate, and misdescriptive.

- (a) Claim 1 is vague and indefinite because it claims more than was elected. It is noted that parts (b) and (c) are drawn to a non-elected invention in that the polynucleotide sequences embraced by these parts of the claim are described in terms of the amino acid sequence that is encoded. The elected invention is not described in the same terms (*i.e.*, applicants elected the nucleotide sequence SEQ ID NO: 102 and portions thereof). In addition, the claim embraces a large number of non-elected SEQ ID NOs.
- (b) The recitation of "comprising a protein-coding region" (claim 1) is vague and indefinite because the instant application does not describe the protein-coding regions of SEQ ID NO: 102.

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- (c) The recitation of "which comprises the nucleotide sequence encoding a polypeptide functionally equivalent to a polypeptide encoded by [SEQ ID NO: 102]" (claim 1) is vague and indefinite because the instant application does not define the function of any polypeptide encoded by SEQ ID NO: 102 nor does it describe or define what is meant by a functional equivalent of any such putative polypeptide whose function has not been disclosed.
- (d) The recitation of "as described above" (claim 1) is vague and indefinite because "above" may describe the entire specification. Such language amounts to an omnibus-type claim.
- (e) The recitation of "comprising a nucleotide sequence encoding a partial amino acid sequence of a polypeptide encoded by the polynucleotides according to any one of (a)-(d)" is vague and indefinite. Parts (b) and (c) of the claim are drawn to a non-elected invention (the discussion in (a) above is incorporated here). The claim is also vague and indefinite because the instant application does not describe the protein-coding regions of SEQ ID NO: 102.
- (f) Claim 9 is inaccurate and misdescriptive because an oligonucleotide cannot comprise SEQ ID NO: 102 which is 3122 nucleotides in length.

Claims 1, 5-8, 12, and 13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The instant application does not describe protein-coding regions of SEQ ID NO: 102 (see the rejection under 35 U.S.C. § 112, second paragraph, items (b), (c), and (e) above). In addition, the instant application does not describe a function for any polypeptide encoded by SEQ ID NO: 102.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 5-7, and 12 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by GenBank® Accession No. AC008736 (September 27, 2000). GenBank® Accession No. AC008736 has 92.7% sequence identity to SEQ ID NO: 102 (see the alignment below). Thus, GenBank® Accession No. AC008736 is embraced by the claims (*e.g.*, see Claim 1(f) and (g)). Since the DNA was sequenced, it was necessarily contained within a vector and host cell.

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## RESULT 3

AC008736/c

LOCUS AC008736 191925 bp DNA linear PRI 27-SEP-2000

DEFINITION Homo sapiens chromosome 19 clone CTD-2538C1, complete sequence.

ACCESSION AC008736

VERSION AC008736.6 GI:10312244

KEYWORDS HTG.

SOURCE Homo sapiens (human)

ORGANISM Homo sapiens

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;

Hominidae; Homo.

REFERENCE 1 (bases 1 to 191925)

AUTHORS DOE Joint Genome Institute and Stanford Human Genome Center.

TITLE Direct Submission

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 191925)

AUTHORS DOE Joint Genome Institute.

TITLE Direct Submission

JOURNAL Submitted (03-AUG-1999) Production Sequencing Facility, DOE Joint Genome Institute, 2800 Mitchell Drive, Walnut Creek, CA 94598, USA

REFERENCE 3 (bases 1 to 191925)

AUTHORS DOE Joint Genome Institute and Stanford Human Genome Center.

TITLE Direct Submission

JOURNAL Submitted (27-SEP-2000) DOE Joint Genome Institute, 2800 Mitchell Drive, Walnut Creek, CA 94598, USA

COMMENT On Sep 27, 2000 this sequence version replaced gi:8575905.

Draft Sequence Produced by DOE Joint Genome Institute

www.jgi.doe.gov

Finishing Completed at Stanford Human Genome Center

www-shgc.stanford.edu

Quality: Phrap Quality &gt;=40 99.9% of Sequence;

Estimated Total Number of Errors is 0.1.

STS Content:

SHGC-57769 G37408.

FEATURES Location/Qualifiers

source

1. .191925

/organism="Homo sapiens"

/mol\_type="genomic DNA"

/db\_xref="taxon:9606"

/chromosome="19"

/clone="CTD-2538C1"

## ORIGIN

Query Match 92.7%; Score 2892.8; DB 8; Length 191925;

Best Local Similarity 99.9%; Pred. No. 0;

Matches 2894; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 ACTAGAGGTGGGGTTAGCGCTTGAAGCACCGACCAACGTGAGCGCAACGCGGCAGGGAC 60  
 |||  
 Db 129460 ACTAGAGGTGGGGTTAGCGCTTGAAGCACCGACCAACGTGAGCGCAACGCGGCAGGGAC 129401

Qy 61 ACCTGACCCCGGCGGCCAGCCCCCTCGGATTGCCAGTCACTGCTCGCTTTGGGGCACG 120  
 |||  
 Db 129400 ACCTGACCCCGGCGGCCAGCCCCCTCGGATTGCCAGTCACTGCTCGCTTTGGGGCACG 129341

Qy 121 GAGGTGCCCAGTCCTGCGGGGCACCCGACGTCTGTGCGCCGACAGGGTCCGGGAGTCAGT 180  
 |||  
 Db 129340 GAGGTGCCCAGTCCTGCGGGGCACCCGACGTCTGTGCGCCGACAGGGTCCGGGAGTCAGT 129281

Qy	181	ATAGCTGGGTTCTAGTCCCATCACAGGCAAAAACCTCCGCGGGAGCCTGGCCCCGCTTTTTTA	240
Db	129280	ATAGCTGGGTTCTAGTCCCATCACAGGCAAAAACCTCCGCGGGAGCCTGGCCCCGCTTTTTTA	129221
Qy	241	CCTGGGCCTCAGTTTCCCCATCCGTAATAAGAACGGGTTGGATCTCCCGAGCGCTAACA	300
Db	129220	CCTGGGCCTCAGTTTCCCCATCCGTAATAAGAACGGGTTGGATCTCCCGAGCGCTAACA	129161
Qy	301	TTCCAGAACTCGGATGGGGCGAAGGGGAGGGAGGGATGGGCCACCCACACGTGACCTCCC	360
Db	129160	TTCCAGAACTCGGATGGGGCGAAGGGGAGGGAGGGATGGGCCACCCACACGTGACCTCCC	129101
Qy	361	CGCGTGGAGCCCCGCTTACCACTGATCCAGGGGGTGGCAGCTCCGGCCGGGACGAGCGGG	420
Db	129100	CGCGTGGAGCCCCGCTTACCACTGATCCAGGGGGTGGCAGCTCCGGCCGGGACGAGCGGG	129041
Qy	421	GTGGGCGGGTCTTAGGAAACCCTACCCGGCCGCCCTTGGCAGCGCCTAAGGCGGAGCGCG	480
Db	129040	GTGGGCGGGTCTTAGGAAACCCTACCCGGCCGCCCTTGGCAGCGCCTAAGGCGGAGCGCG	128981
Qy	481	CGGCTCTGCAGCCTGCTTGCCCCGAGTTGGCACCCACGGAGGATGGGGACCGCACCCCTC	540
Db	128980	CGGCTCTGCAGCCTGCTTGCCCCGAGTTGGCACCCACGGAGGATGGGGACCGCACCCCTC	128921
Qy	541	AGCTTCGCAGGGAGCCACCGTGGAGGCCAGGGCGGTGCAGAGACACGACGTGTGACTCGG	600
Db	128920	AGCTTCGCAGGGAGCCACCGTGGAGGCCAGGGCGGTGCAGAGACACGACGTGTGACTCGG	128861
Qy	601	AGTGCGCCTGGGGAGGATGGACGAGGGAGCGGGGACCGCTAACGGGGCTCCCTCTGCGC	660
Db	128860	AGTGCGCCTGGGGAGGATGGACGAGGGAGCGGGGACCGCTAACGGGGCTCCCTCTGCGC	128801
Qy	661	GCCCCGTCCGCAGAGGCGCACGTGAGGGTCCCGGGCGGGCTCCGTGGACGTTGGCGGTA	720
Db	128800	GCCCCGTCCGCAGAGGCGCACGTGAGGGTCCCGGGCGGGCTCCGTGGACGTTGGCGGTA	128741
Qy	721	GCGCCGAGCGAGTCACGGACCATGAAGAGCGTTTCGTGCCGCGCGGCCCAAGGCCGGGATG	780
Db	128740	GCGCCGAGCGAGTCACGGACCATGAAGAGCGTTTCGTGCCGCGCGGCCCAAGGCCGGGATG	128681
Qy	781	GGGGTTAGCCACATCCTGCCGCGCTGAGGGGGAGGCTAACGGGCGCGGGCGGCCGGGCCC	840
Db	128680	GGGGTTAGCCACATCCTGCCGCGCTGAGGGGGAGGCTAACGGGCGCGGGCGGCCGGGCCC	128621
Qy	841	AGCCGGAGCCCACCGCGATGGCGAGGGAGGAGTGCAAGGCGCTGCTGGACGGGCTCAACA	900
Db	128620	AGCCGGAGCCCACCGCGATGGCGAGGGAGGAGTGCAAGGCGCTGCTGGACGGGCTCAACA	128561
Qy	901	AGACGACTGCGTGCTACCACCACCTGGTGCTGACCGTCGGTGGCTCGGCGGACTCGCAGA	960
Db	128560	AGACGACTGCGTGCTACCACCACCTGGTGCTGACCGTCGGTGGCTCGGCGGACTCGCAGA	128501
Qy	961	ACCTGCGGCAGGAGCTGCAAAAGACGCGCCAGAAGGCGCAGGAGCTGGCGGTGTCCACCT	1020
Db	128500	ACCTGCGGCAGGAGCTGCAAAAGACGCGCCAGAAGGCGCAGGAGCTGGCGGTGTCCACCT	128441
Qy	1021	GCGCCCGGCTGACTGCTGTGCTGCGCGACCGGGGCGCTGGCCGCGACGAGCGCGCCGAGT	1080
Db	128440	GCGCCCGGCTGACTGCTGTGCTGCGCGACCGGGGCGCTGGCCGCGACGAGCGCGCCGAGT	128381



Qy	1081	TCGAGCGGCTCTGGGTGGCCTTCTCGGGCTGCCTGGACCTGCTGGAAGCGGACATGCGAC	1140
Db	128380	TCGAGCGGCTCTGGGTGGCCTTCTCGGGCTGCCTGGACCTGCTGGAAGCGGACATGCGAC	128321
Qy	1141	GCTCGCTGGAGCTGGGCGCCGCGTTCCCGCTGCACGCGCCGCGGCGACCGCTGGTGCGCA	1200
Db	128320	GCTCGCTGGAGCTGGGCGCCGCGTTCCCGCTGCACGCGCCGCGGCGGCGCGCTGGTGCGCA	128261
Qy	1201	CAGGTGTGGCTGGCGCCTCCTCCGGCGTGGCGGCGCGCGCTGAGCACCCGCAGCCTGC	1260
Db	128260	CAGGTGTGGCTGGCGCCTCCTCCGGCGTGGCGGCGCGCGCTGAGCACCCGCAGCCTGC	128201
Qy	1261	GGCTCGAGGCGGAGGGCGACTTCGACGTCGCGGACCTGCGGGAGCTGGAGCGCGAGGTCC	1320
Db	128200	GGCTCGAGGCGGAGGGCGACTTCGACGTCGCGGACCTGCGGGAGCTGGAGCGCGAGGTCC	128141
Qy	1321	TTCAGGTGGGCGAGATGATCGACAACATGGAGATGAAGGTCAACGTGCCCCGCTGGACCG	1380
Db	128140	TTCAGGTGGGCGAGATGATCGACAACATGGAGATGAAGGTCAACGTGCCCCGCTGGACCG	128081
Qy	1381	TGCAAGCCCGGCAGGCGGCGGGCGCCGAGCTCCTGTCCACGGTCAGCGCCGCCCCCTCCT	1440
Db	128080	TGCAAGCCCGGCAGGCGGCGGGCGCCGAGCTCCTGTCCACGGTCAGCGCCGCCCCCTCCT	128021
Qy	1441	CGGTCTGTCTCCTTG CAGGAGCGCGGGGGGGTTGCGACCCAGGAAGGCCCTGGCCGCCA	1500
Db	128020	CGGTCTGTCTCCTTG CAGGAGCGCGGGGGGGTTGCGACCCAGGAAGGCCCTGGCCGCCA	127961
Qy	1501	TCCTTTTCGGCGCCGTGCTGCTGGCGGCTGTGGCCCTAGCCGTGTGCGTGGCGAAGCTGA	1560
Db	127960	TCCTTTTCGGCGCCGTGCTGCTGGCGGCTGTGGCCCTAGCCGTGTGCGTGGCGAAGCTGA	127901
Qy	1561	GCTGACAGACACCCGACGGCCGCTGCTGCTGCCGCTCCCTCCCCTGAGAAAAGACTCGG	1620
Db	127900	GCTGACAGACACCCGACGGCCGCTGCTGCTGCCGCTCCCTCCCCTGAGAAAAGACTCGG	127841
Qy	1621	GATGGGTGTGGGGTCTGGCCTGTGCAAGGGGAGTGGTCCTAAAACCCCGTGTGTGCATGG	1680
Db	127840	GATGGGTGTGGGGTCTGGCCTGTGCAAGGGGAGTGGTCCTAAAACCCCGTGTGTGCATGG	127781
Qy	1681	GTACACGCGCGTTTCCAGTGACATCTGCCTGGGCAGGACACGGTTTTTCTCTTGCTGGC	1740
Db	127780	GTACACGCGCGTTTCCAGTGACATCTGCCTGGGCAGGACACGGTTTTTCTCTTGCTGGC	127721
Qy	1741	CCGGGAGAAGTTAACTTTGCGCCGGCCGTAGGGCATTACCGCTAACGTCTGCAGGAGCT	1800
Db	127720	CCGGGAGAAGTTAACTTTGCGCCGGCCGTAGGGCATTACCGCTAACGTCTGCAGGAGCT	127661
Qy	1801	TTATTCCCTATTAATAGAAAACCGTCACAGTGACCCTAGATCCCTCCGAGTTAATGAGTT	1860
Db	127660	TTATTCCCTATTAATAGAAAACCGTCACAGTGACCCTAGATCCCTCCGAGTTAATGAGTT	127601
Qy	1861	AACACATGTGCTGTTGGGGCGTCTTTACAGGGAGTCCGAGTTCGGTGCCACCCCTGCCA	1920
Db	127600	AACACATGTGCTGTTGGGGCGTCTTTACAGGGAGTCCGAGTTCGGTGCCACCCCTGCCA	127541
Qy	1921	GCGTCGCCCCCTTTCTGCGTGGGACAGTTTGAAAAGGTGGGTGGGGTGGAGTGAAGTTTG	1980
Db	127540	GCGTCGCCCCCTTTCTGCGTGGGACAGTTTGAAAAGGTGGGTGGGGTGGAGTGAAGTTTG	127481

Qy	1981	GAGAGGGACGCTGTTTGGTTCTATGTGGTTGGTCTGTTTCCCGGACAAGAAAAATTGCAA	2040
Db	127480	GAGAGGGACGCTGTTTGGTTCTATGTGGTTGGTCTGTTTCCCGGACAAGAAAAATTGCAA	127421
Qy	2041	TCAAATGTCAGCAGCTTTTATTACCTTAATCTTTCAGGGCCTAAATTTAGGAGAGTGTCC	2100
Db	127420	TCAAATGTCAGCAGCTTTTATTACCTTAATCTTTCAGGGCCTAAATTTAGGAGAGTGTCC	127361
Qy	2101	TGAGAGCAGTTCATACAAAGGGCTTTCTCTAAGACGCGCTACAGCCCTTCCTAGCAGAGT	2160
Db	127360	TGAGAGCAGTTCATACAAAGGGCTTTCTCTAAGACGCGCTACAGCCCTTCCTAGCAGAGT	127301
Qy	2161	TTATCCATTTCGTCCCCAAGAGCAGCTAGAAGAGATTTGAGGTCATGACCTCCCACTGCCG	2220
Db	127300	TTATCCATTTCGTCCCCAAGAGCAGCTAGAAGAGATTTGAGGTCATGACCTCCCACTGCCG	127241
Qy	2221	CTCAGGGGCTGACCCTATTTAGGAAACCAAAGAGGGTGGGTTGAACCTACTCTCACGGAC	2280
Db	127240	CTCAGGGGCTGACCCTATTTAGGAAACCAAAGAGGGTGGGTTGAACCTACTCTCACGGAC	127181
Qy	2281	TTGGATCCAGTGCGCACACTTGCCTGCGGAAAAGGGCTCTCCCAGCCACCCGGAGATGG	2340
Db	127180	TTGGATCCAGTGCGCACACTTGCCTGCGGAAAAGGGCTCTCCCAGCCACCCGGAGATGG	127121
Qy	2341	GGGTAAGAGGAAGAGCAGAGGCTTGGGGTAGGGCCACCTGGTGTTTAAACAGGCACTTTC	2400
Db	127120	GGGTAAGAGGAAGAGCAGAGGCTTGGGGTAGGGCCACCTGGTGTTTAAACAGGCACTTTC	127061
Qy	2401	TCCTTCTCTGGGGCTTATTTTGTTCAGAACTAGACCAGAGTGTTTGAACCTCCTTTGCA	2460
Db	127060	TCCTTCTCTGGGGCTTATTTTGTTCAGAACTAGACCAGAGTGTTTGAACCTCCTTTGCA	127001
Qy	2461	GGAGGGCTGGGAATCCTCTTTAGAGCACTTAATCCTATTATATCCCCTGGAATGTGCGTGC	2520
Db	127000	GGAGGGCTGGGAATCCTCTTTAGAGCACTTAATCCTATTATATCCCCTGGAATGTGCGTGC	126941
Qy	2521	TGGCCAGTAGGAGGGCTGGCTTTGGCAGCTCCCTGACCCCCGCGCTGCCCGCCCCCTCCGG	2580
Db	126940	TGGCCAGTAGGAGGGCTGGCTTTGGCAGCTCCCTGACCCCCGCGCTGCCCGCCCCCTCCGG	126881
Qy	2581	GGTAATGTGGCATTACTGGCCCCACAGAGGTTTGTAGCCAATCAGCTCTGAGACTGGGTTA	2640
Db	126880	GGTAATGTGGCATTACTGGCCCCACAGAGGTTTGTAGCCAATCAGCTCTGAGACTGGGTTA	126821
Qy	2641	GAATGTAACAGCTTTAACTTGGGATTTAAGAAGCTTTTAAAAGGTAATAATCCTCTGAAA	2700
Db	126820	GAATGTAACAGCTTTAACTTGGGATTTAAGAAGCTTTTAAAAGGTAATAATCCTCTGAAA	126761
Qy	2701	GAAAAATGACGTAACACAGCGTGTAATGAAAGCTGTTATTTTAATAAAGAACGCTGG	2760
Db	126760	GAAAAATGACGTAACACAGCGTGTAATGAAAGCTGTTATTTTAATAAAGAACGCTGG	126701
Qy	2761	GCCATGAACCTACACCTGCCAATGAGTCAAACATAGTATCTTTATGTAGATACTTAGATT	2820
Db	126700	GCCATGAACCTACACCTGCCAATGAGTCAAACATAGTATCTTTATGTAGATACTTAGATT	126641
Qy	2821	ACTAAATATATATTTTCATCTACTTCTGAAGTTGATAGTCTTCCCCCCCCCCCCACTTTTT	2880
Db	126640	ACTAAATATATATTTTCATCTACTTCTGAAGTTGATAGTCTTCCCCCCCCCCCCACTTTTT	126581

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Qy      2881 TCTTTTTTGAGGCAGG 2896
          |||||
Db      126580 TCTTTTTTGAGACAGG 126565

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Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over GenBank® Accession No. AC008736 (September 27, 2000) in view of applicants' admitted state of the prior art (*e.g.*, page 82, first full paragraph). GenBank® Accession No. AC008736 has 92.7% sequence identity to SEQ ID NO: 102. Applicants acknowledge the expression of nucleic acids in heterologous host cells to be old (*e.g.*, instant application at page 82, first full paragraph). It would have been obvious for one of ordinary skill in the art at the time the invention was made to express the nucleic acid of GenBank® Accession No. AC008736 in the admittedly old manner in order to produce large amounts of sequence-specific polypeptide.

Claims 1, 5-7, and 9-13 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Shoshan et al (WO 02/10449 A2 (February 7, 2002)). SEQ ID NO: 23330 of Shoshan et al is 60 nucleotides in length and matches 60 contiguous nucleotides in SEQ ID NO: 102 of the instant claims (see the alignment below). Thus, the DNA of Shoshan et al is embraced by the claims. Shoshan et al also discloses hybridization assays and antisense molecules (*e.g.*, see the abstract).

```

RESULT 14
ABN50582
ID   ABN50582 standard; DNA; 60 BP.
XX
AC   ABN50582;
XX
DT   15-JUL-2002   (first entry)
XX
DE   Human spliced transcript detection oligonucleotide SEQ ID NO:23330.
XX
KW   Human; mouse; rat; splice transcript; detection; RNA transcript;
KW   splice variant; transcriptome; oligonucleotide library; ss.
XX
OS   Homo sapiens.
XX
PN   WO200210449-A2.
XX
PD   07-FEB-2002.
XX
PF   20-JUL-2001; 2001WO-IB001903.
XX
PR   28-JUL-2000; 2000US-0221607P.
PR   02-MAY-2001; 2001US-0287724P.
XX
PA   (COMP-) COMPUGEN INC.

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XX  
 PI Shoshan A, Wasserman A, Mintz E, Mintz L, Faigler S;  
 XX  
 DR WPI; 2002-257383/30.  
 XX  
 PT New oligonucleotide libraries comprising oligonucleotides which  
 PT selectively hybridize to mRNAs transcribed from a transcription unit of a  
 PT genome, useful for detecting tissue-, pathology-, and developmental-  
 PT specific genes.  
 XX  
 PS Example 1; SEQ ID NO 23330; 47pp; English.  
 XX  
 CC The present invention describes oligonucleotide libraries for detecting  
 CC messenger RNAs that populate a (sub-)transcriptome, where the (sub-  
 CC )transcriptome comprises messenger RNAs transcribed from multiple  
 CC transcription units that populate a genome. The library comprises several  
 CC oligonucleotides, each capable of hybridising selectively to a set of  
 CC messenger RNAs transcribed from a given transcription unit of the genome,  
 CC which encodes one or more messenger RNA splice variants. The  
 CC oligonucleotide libraries are useful for detecting mRNAs from a  
 CC biological sample, in expression profiling studies, in qualitatively or  
 CC quantitatively characterising the corresponding transcriptome, and in  
 CC detecting RNA transcripts and splice variants of human or animal  
 CC transcriptomes. The libraries may also be used as specialised mini  
 CC libraries to detect transcripts of a sub-transcriptome under a particular  
 CC biological or pathological state, and so allowing the detection of tissue  
 CC - and pathology-specific genes such as those genes only expressed in  
 CC specific tissue under a specific pathological condition; to detect  
 CC developmental specific genes; and to detect RNA transcripts and splice  
 CC variants of a transcriptome of a patient suffering from a particular  
 CC disorder. ABN27253 to ABN59589 represent oligonucleotide sequences from  
 CC rats, humans and mice, which are used in the exemplification of the  
 CC present invention. N.B. The sequence data for this patent did not form  
 CC part of the printed specification, but was obtained in electronic format  
 CC directly from WIPO at ftp.wipo.int/pub/published\_pct\_sequences  
 XX  
 SQ Sequence 60 BP; 11 A; 14 C; 16 G; 19 T; 0 U; 0 Other;

Query Match 1.9%; Score 60; DB 6; Length 60;  
 Best Local Similarity 100.0%; Pred. No. 3.5e-17;  
 Matches 60; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2464 GGGCTGGGAATCCTCTTTAGAGCACTTAATCCTATTTATCCCCTGGAATGTGCGTGCTGG 2523  
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||  
 Db 1 GGGCTGGGAATCCTCTTTAGAGCACTTAATCCTATTTATCCCCTGGAATGTGCGTGCTGG 60

Claims 1, 5-7, and 9-13 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Shoshan et al (U.S. Patent Application Publication 20030165843). SEQ ID NO: 23330 of Shoshan et al is 60 nucleotides in length and matches 60 contiguous nucleotides in SEQ ID NO: 102 of the instant claims (see the alignment below). Thus, the DNA of Shoshan et al is embraced by the claims. Shoshan et al also discloses hybridization assays and antisense molecules (*e.g.*, see the abstract).

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## RESULT 9

US-09-908-975-23330  
 ; Sequence 23330, Application US/09908975  
 ; Publication No. US20030165843A1  
 ; GENERAL INFORMATION:  
 ; APPLICANT: SHOSHAN, Avi  
 ; APPLICANT: WASSERMAN, Alon  
 ; APPLICANT: MINTZ, Eli  
 ; APPLICANT: MINTZ, Liat  
 ; APPLICANT: FAIGLER, Simchon  
 ; TITLE OF INVENTION: OLIGONUCLEOTIDE LIBRARY FOR DETECTING RNA TRANSCRIPTS AND  
 SPLICE VARIANTS  
 ; TITLE OF INVENTION: THAT POPULATE A TRANSCRIPTOME  
 ; FILE REFERENCE: 36688-0005  
 ; CURRENT APPLICATION NUMBER: US/09/908,975  
 ; CURRENT FILING DATE: 2001-07-20  
 ; PRIOR APPLICATION NUMBER: US 60/287,724  
 ; PRIOR FILING DATE: 2001-05-02  
 ; PRIOR APPLICATION NUMBER: US 60/221,607  
 ; PRIOR FILING DATE: 2000-07-28  
 ; NUMBER OF SEQ ID NOS: 32337  
 ; SOFTWARE: PatentIn version 3.0  
 ; SEQ ID NO 23330  
 ; LENGTH: 60  
 ; TYPE: DNA  
 ; ORGANISM: Homo sapiens  
 US-09-908-975-23330

Query Match 1.9%; Score 60; DB 3; Length 60;  
 Best Local Similarity 100.0%; Pred. No. 3.2e-20;  
 Matches 60; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2464 GGGCTGGGAATCCTCTTTAGAGCACTTAATCCTATTTATCCCCTGGAATGTGCGTGCTGG 2523  
 |||||  
 Db 1 GGGCTGGGAATCCTCTTTAGAGCACTTAATCCTATTTATCCCCTGGAATGTGCGTGCTGG 60

Claims 1 and 5-13 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Penn et al (U.S. Patent Application Publication 20030194704). SEQ ID NO: 6988 of Penn et al is 524 nucleotides in length and matches 524 contiguous nucleotides in SEQ ID NO: 102 of the instant claims (see the alignment below). Thus, the DNA of Penn et al is embraced by the claims. Penn et al also teaches the use of arrays and nucleic acid molecular hybridization assays (*e.g.*, see paragraphs 0176-0193) and heterologous expression of nucleic acids (*e.g.*, see paragraphs 0439-0467).

## RESULT 3

US-10-029-386-6988/c  
 ; Sequence 6988, Application US/10029386  
 ; Publication No. US20030194704A1  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Penn, Sharron G.  
 ; APPLICANT: Rank, David R.

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; APPLICANT: Hanzel, David K.  
; TITLE OF INVENTION: HUMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR GENE  
; TITLE OF INVENTION: EXPRESSION ANALYSIS TWO  
; FILE REFERENCE: AEOMICA-X-2  
; CURRENT APPLICATION NUMBER: US/10/029,386  
; CURRENT FILING DATE: 2001-12-20  
; NUMBER OF SEQ ID NOS: 34288  
; SOFTWARE: Annomax Sequence Listing Engine vers. 1.1  
; SEQ ID NO 6988  
; LENGTH: 524  
; TYPE: DNA  
; ORGANISM: Homo sapiens  
; FEATURE:  
; OTHER INFORMATION: MAP TO AC010615.5  
; OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 0.56  
; OTHER INFORMATION: EXPRESSED IN ADULT LIVER, SIGNAL = 1.2  
; OTHER INFORMATION: EXPRESSED IN HEART, SIGNAL = 1.3  
; OTHER INFORMATION: EXPRESSED IN BRAIN, SIGNAL = 1.1  
; OTHER INFORMATION: EXPRESSED IN FETAL LIVER, SIGNAL = 1.5  
; OTHER INFORMATION: EXPRESSED IN LUNG, SIGNAL = 1.3  
; OTHER INFORMATION: EST\_HUMAN HIT: AW302149.1, EVALUE 0.00e+00  
; OTHER INFORMATION: SWISSPROT HIT: Q06805, EVALUE 1.90e-01  
; OTHER INFORMATION: NT HIT: gi4507086, EVALUE 7.80e+00  
US-10-029-386-6988

Query Match 16.8%; Score 524; DB 6; Length 524;  
Best Local Similarity 100.0%; Pred. No. 6.5e-265;  
Matches 524; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	484	CTCTGCAGCCTGCTTGCCCCGAGTTGGCACCCACGGAGGATGGGGACCGCACCCCTCAGC	543
Db	524	CTCTGCAGCCTGCTTGCCCCGAGTTGGCACCCACGGAGGATGGGGACCGCACCCCTCAGC	465
Qy	544	TTCGCAGGGAGCCACCGTGGAGGCCAGGGCGGTGCAGAGACACGACGTGTGACTCGGAGT	603
Db	464	TTCGCAGGGAGCCACCGTGGAGGCCAGGGCGGTGCAGAGACACGACGTGTGACTCGGAGT	405
Qy	604	GCGCCTGGGGAGGATGGACGAGGGAGCGGGGACCGCTAACGGGGCTCCCTCTGCGCGCC	663
Db	404	GCGCCTGGGGAGGATGGACGAGGGAGCGGGGACCGCTAACGGGGCTCCCTCTGCGCGCC	345
Qy	664	CCGTCCGCAGAGGCGCACGTCGAGGGTCCCGGGCGGGCTCCGTGGACGTTGGCGGTAGCG	723
Db	344	CCGTCCGCAGAGGCGCACGTCGAGGGTCCCGGGCGGGCTCCGTGGACGTTGGCGGTAGCG	285
Qy	724	CCGAGCGAGTCACGGACCATGAAGAGCGTTCGTGCCGCGCGCCCAAGGCCGGGATGGGG	783
Db	284	CCGAGCGAGTCACGGACCATGAAGAGCGTTCGTGCCGCGCGCCCAAGGCCGGGATGGGG	225
Qy	784	GTTAGCCACATCCTGCCGCGCTGAGGGGGAGGCTAACGGGCGCGGGCGGCCGGGCCAGC	843
Db	224	GTTAGCCACATCCTGCCGCGCTGAGGGGGAGGCTAACGGGCGCGGGCGGCCGGGCCAGC	165
Qy	844	CGGAGCCCACCGCGATGGCGAGGGAGGAGTGCAAGGCGCTGCTGGACGGGCTCAACAAGA	903
Db	164	CGGAGCCCACCGCGATGGCGAGGGAGGAGTGCAAGGCGCTGCTGGACGGGCTCAACAAGA	105
Qy	904	CGACTGCGTGCTACCACCACCTGGTGCTGACCGTCGGTGGCTCGGCGGACTCGCAGAACC	963

Db 104 CGACTGCGTGCTACCACCACCTGGTGTCTGACCGTCGGTGGCTCGGCGGACTCGCAGAACC 45

Qy 964 TCGGGCAGGAGCTGCAAAAGACGCGCCAGAAGGCGCAGGAGCTG 1007

|||||

Db 44 TCGGGCAGGAGCTGCAAAAGACGCGCCAGAAGGCGCAGGAGCTG 1

The examiner works a flexible schedule and can be reached by phone and voice mail.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ramon Canino can be reached on (571) 272-0735.

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**OFFICIAL FAX NUMBER**

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Any Official Communication to the USPTO should be faxed to this number.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

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**James Martinell, Ph.D.**  
**Primary Examiner**  
**Art Unit 1634**

5/27/09